



DENGUE VIRAL FEVER PRESENTED WITH HYPOKALEMIC QUADRIpareSIS

General Medicine

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ABSTRACT

Dengue infection is the leading cause of illness and death in tropical and subtropical regions of the world. The common complications associated with dengue fever are usual hematological abnormalities, shock, and organ failure. The neurological complications of dengue are uncommon. However, evidence of dengue virus neurotropism and complications has been slowly but surely rising as seen from increased literature on this subject over the last decade. We report an uncommon case of hypokalemic quadripareSis with dengue that had a favorable outcome.

KEYWORDS

Dengue Fever, Flaccid Paralysis, Hypokalemia, QuadripareSis

INTRODUCTION

Dengue fever remains one of the most common infections in the tropics especially during rainy season. The classic presentation is acute febrile illness with thrombocytopenia and bleeding tendencies. However neurological presentations of dengue fever are increasingly being recognized. When dengue fever presents with quadripareSis, hypokalemia should be suspected to avoid delay in treatment and undue investigations.

Case Report

A 30year old hindu married male patient presented to medical ward p.d.u civil hospital rajkot on 10 february 2023 with chief complain of high grade fever ,headache,bodyache since 5 days.patient is having complain of bilateral lower limb weakness, which started distally symmetrically and progressed proximally and gradually involved the upper limbs in the same pattern,the proximal muscles were affected more severely than distal muscles since 1-2 days then he was bought to medical ward by his family members.There was no history of neck pain, sensory symptoms in limbs, recent vaccination, diarrheal illness, recent vigorous exercise or heavy carbohydrate meal. He was not on any prescription medications.he was having history of tobacco chewing.

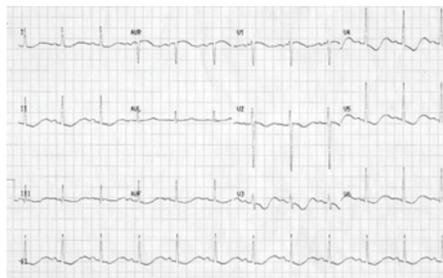
Examination

- Temperature- 101°F
- Pulse- 110/min
- BP- 112/78mm Hg
- RS/CVS- NAD
- CNS-fully conscious and oriented to time,place and person.
- Power:2/5 all four limbs
- Tone: decreased in all limbs
- Reflexes:all DTR absent
- There was no cranial nerve involvement, sensory deficit or any evidence of bladder, bowel, or bulbar dysfunction
- Single breath count:24
- Rest of the systemic examination was unremarkable.

Investigations

On Admission

ECG:suggestive of generalized ST depression (hypokalemic changes)



Hemoglobin 11.5 (13-17g/dl)
 Wbc 4000 (4000-11000/cmm)
 Platelets 98000 (1.5-4.5lakh/cmm)

Creatinine:	0.6	(0.9–1.3 mg/dl)
Sodium:	146	(135–145 mmol/L)
Potassium:	2.4	(3.5–5.1 mmol/L)
ALT	150	(40-50 IU/L)
Chloride	101	(98–107 mmol/L)
Bicarbonate	26.7	(20–31 mmol/L)
Calcium	8.4	(8.6–10.2 mg/dl)

Dengue IGM POSITIVE

B12	675
TSH	3.5 (0.4–4.2 uIU/ml)
Magnesium	1.7 (1.6–2.6 mg/dl)
FT4	1.1 (0.89–1.76 ng/dl)
FT3	3 (2.1–4.4 ng/dl)

Arterial blood gas analysis, anion gap, urine pH and electrolytes were within normal limits. His nerve conduction velocity (NCV)/ electromyography (EMG) was completely normal, ECG showed generalized ST depression. A rapid card test for malaria was negative and non structural protein antigen was positive on Day 1 of admission and subsequently the dengue serology also turned out to be positive (anti-IgM). Patient was started on intravenous potassium infusion and next day patient's potassium was 4.2 meq/l. Clinically, there was marked improvement in the power of the limbs (from 2+/5 to 4+/5 in all four limbs) and improvement in the platelet count to 1.86 lacs on Day 3. Patient was managed conservatively and was discharged on Day 4.

DISCUSSION

Neurological complications of dengue are very rare. However, recently neuromuscular weakness has been described in association with dengue infection. [1],[2] Hira et al.[3] have described motor weakness in 12 patients of dengue infection. Out of these 12 patients, 10 had hypokalemia, 1 had Guillain-Barre syndrome, and other one had myositis.

Hypokalemia in dengue fever is not very uncommon, but presentation with quadripareSis is very rare. The exact cause is unknown, but it may result from transcellular shift due to release of catecholamines or insulin. It could also be due to loss of potassium in urine as a result of renal tubular damage. A study carried out in children with dengue infection revealed hypokalemia in 14% of patients with dengue fever and 17% of patients with dengue hemorrhagic fever. [5]

The most common differential diagnosis remains AIDP and the differentiating features being presence of the normal nerve conduction velocity, absent albuminocytological dissociation, and the response to potassium supplementation in dengue infection with hypokalemic quadripareSis. Physicians should be aware that dengue can present with neurological complications.

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